

CLAIMS

What is claimed is:

1. A method of computing, comprising:
 - at a processor in a storage network:
 - receiving a service request;
 - generating, in response to the received service request, a token request for a service token;
 - transmitting the token request to a server communicatively connected to the storage network; and
 - at the server:
 - validating the token request;
 - transmitting to the processor a response to the validated token request; and
 - invoking, at the processor in the storage network, a service call if the response to the token request includes at least one service token.
2. The method of claim 1, wherein the service request is generated by at least one of a user of a device in the storage network or by a processor communicatively connected to the storage network.
3. The method of claim 1, wherein the service request comprises a request for at least one of a data mirroring service, a remote copy service, a back-up service, a recovery service, or a LUN extension service.

4. The method of claim 1, wherein generating a token request comprises retrieving at least one account identifier for an account associated with a device in the storage network.

5. The method of claim 4, wherein generating a token request comprises incorporating into the token request information identifying the service request.

6. The method of claim 5, wherein validating the token request comprises validating the at least one account identifier associated with the service request.

7. The method of claim 5, wherein validating the token request comprises determining whether the account associated with the at least one account identifier comprises sufficient credit to receive a token.

8. The method of claim 7, further comprising retrieving information from a third-party credit bureau.

9. The method of claim 1, wherein the response to the token request comprises at least one of:

an account identifier;

an account balance;

a code, decipherable by the processor, granting or denying permission to invoke the service call; and

a software module, executable by the processor, for invoking the service call.

10. The method of claim 1, further comprising updating account information at the processor in the storage network.

11. A method of implementing fee-based storage services, comprising:

receiving, at a processor in a storage device, a service request;

executing the service request; and

transmitting, to an account server, information identifying an account associated with the processor and the service request.

12. The method of claim 11, wherein the service request comprises a request for at least one of a data mirroring service, a remote copy service, a back-up service, a recovery service, or a LUN extension service.

13. The method of claim 11, wherein the processor maintains account information associated with one or more storage devices, and wherein the processor updates account information to reflect execution of the service request.

14. The method of claim 11, further comprising receiving, from the account server a response comprising at least one of:

- an account identifier;
- an account balance;
- a code, decipherable by the processor, granting or denying permission to invoke the service call; and
- a software module, executable by the processor, for invoking the service call.

15. A method of implementing fee-based storage services, comprising:
receiving, at a server communicatively connected to at least one storage device, a token request including information identifying an account associated with the storage device;
validating the token request; and
transmitting, to the storage device, a response to the token request,

wherein the response includes at least one of:

- an account identifier;
- an account balance;
- a code, decipherable by the processor, granting or denying permission to invoke the service call; and
- a software module, executable by the processor, for invoking the service call.

16. The method of claim 15, wherein validating the token request comprises validating the information identifying an account associated with the service request.

17. The method of claim 15, wherein validating the token request comprises determining whether an account associated with the service request comprises sufficient credit to receive a token.

18. The method of claim 17, further comprising retrieving information from a third-party credit bureau.

19. A method of implementing fee-based storage services, comprising:
receiving, at a processor in a storage device, a service request;
executing the service request; and
updating an account to reflect execution of the service request.

20. The method of claim 19, wherein the service request is generated by at least one of a user of a device in the storage network or by a processor communicatively connected to the storage network.

21. The method of claim 19, wherein the service request comprises a request for at least one of a data mirroring service, a remote copy service, a back-up service, a recovery service, or a LUN extension service.

22. The method of claim 19, further comprising transmitting account information to a remote server.
23. A computer-based data storage device, comprising:
 - means for providing access to data storage;
 - means for enabling communication with one or more remote computing devices;
 - account management means for managing account information associated with the computer-based storage device; and
 - processing means for receiving a service request and executing the service request based on input from the account management means or a remote computing device.
24. The computer-based data storage device of claim 23, wherein the means for providing access to data storage comprises a disk controller.
25. The computer-based data storage device of claim 23, wherein the means for providing access to data storage comprises a RAID controller.
26. The computer-based data storage device of claim 23, wherein the means for enabling communication with one or more remote computing devices comprises a I/O module.

27. The computer-based data storage device of claim 23, wherein the account management means comprise means for updating the balance of an account stored on a local storage medium.
28. The computer-based data storage device of claim 23, wherein the processing means comprise means for determining whether an account stored on a local storage medium comprises sufficient credit to execute the service request.
29. The computer-based data storage device of claim 23, wherein the processing means comprises means for requesting permission from a remote computing device to execute the service request.
30. A method of implementing fee-based storage services, comprising:
 - receiving, at a processor in a storage network, a service request;
 - generating a token request for a service token;
 - transmitting the token request to a server communicatively connected to the storage network; and
 - invoking a service call at the processor if the response to the token request comprises at least one token granting permission to execute the service request.

31. The method of claim 30, wherein the service request is generated by at least one of a user of a device in the storage network or by a processor communicatively connected to the storage network.
32. The method of claim 30, wherein the service request comprises a request for at least one of a data mirroring service, a remote copy service, a back-up service, a recovery service, or a LUN extension service.
33. The method of claim 30, wherein the response to the token request comprises at least one of:
 - an account identifier;
 - an account balance;
 - a code, decipherable by the processor, granting or denying permission to invoke the service call; and
 - a software module, executable by the processor, for invoking the service call.
34. The method of claim 30, further comprising updating account information at the processor in the storage network.